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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,612	12/02/2003	Tetsuya Kato	117932	2593
25944	7590	03/13/2006	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			ROSENBERGER, RICHARD A	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/724,612

Applicant(s)

KATO, TETSUYA

Examiner

Richard A. Rosenberger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/5/04; 5/26/04</u> | 6) <input type="checkbox"/> Other: ____  |

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Oshima et al (US 5,463,212).

The claims in this application call for a “reflection-type optical sensor”, but the structure of the claims is not limited to a reflection-type sensor as opposed to, for example, a system such as shows by Oshima et al which detects fluorescent marks.

As in claim 1, The Oshima et al reference, in particular in figures 10, 12 and 13, shows a optical sensor with a light-emitting element (50, 103) and a light receiving element (51, 105) arranged with their central axes parallel to each other. There is a restricting member with a restriction portion defining an opening (55, 116) that will allow part of the detecting light and part of the reflected light to pass through, and will reduce an area of the overlapping region of the region of the irradiated and reflecting region on the surface of the object being measured.

As in claim 2, the light emitting and receiving elements have light emitting and receiving ends respectively that confront the object and have directivities that define their respective regions.

As in claim 3, the restricting portion blocks part of, and therefor decreases the amounts, of both the emission and receiving angles.

As in claim 4, the restricting member includes a wall portion located between the object and the emitting and receiving elements.

As in claim 5, the restricting member has the form of a "cap member" with a wall portion between the object and the light emitting and receiving elements, and has at least one opening therein.

As in claims 7 and 8, as shown in figure 13 the center of the opening (116) in the light restricting portion is circular and lies approximately at the center of a line connecting the light emitting and receiving elements.

4. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima et al (US 5,463,212).

See above. Oshima et al shows an optical sensor for detecting marks on an object. Although Oshima et al is specifically directed to detecting fluorescent marks, it would have been obvious to use the arrangement, with the omission of substitution of the filter (52, 106) to measure reflectively detected marks or other reflective characteristics of the object; reflection-based tests are so well known in the art that official notice is sufficient.

For claims 13 and 14, see the discussion of claims 4 and 5 above.

As for claim 6, figures 10 and 12 show the light emitting element and the light receiving elements at what could be reasonably considered “approximately equal distances from the wall portion, depending only on the assumed thickness of the filter ((52, 106). As in claims 9 and 16, the reference does not teach the particular dimensions of that claim. As for claim 10, it is not clear exactly what the structure of the device holding the emitter and receiver is, although figures 19 and 12 make it appear as if there are separate openings of the emitter and receiver; see the wall portion (115) in figure 12 that appears to define a separate opening for the receiving element. Those in the art could, within the broader teaching of the reference and using only ordinary skill in the art, choose appropriate placement and dimensions and element holding arrangements for the type of system shown by the reference.

As for claims 11 and 12, the Oshima et al reference provides means to move the object across the sensor. It would have been obvious to effect this relative movement, where convenient, by moving the sensor itself rather than the object; it is the relative movement between the object and the sensor, and not which of the two is undergoing the movement, that is important to the functioning of the system. It is so well known in the art that a sensor head can be moved over an object to measure it that official notice is sufficient. The system of the Oshima et al reference, if used as a reflection sensor, could be included in known systems, as in claim 15, and used for any type of reflection-based test known in the art, including edge detection, as in claims 17, 18, and 19.

5. It is noted that the prior art cited in the specification, page 1, line 12 through page 2, line 3, discloses a known reflection based sensor. The English translation of that

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document supplied with the information disclosure statement filed 5 January 2004 discusses using such a reflection-based sensor as an edge detector.

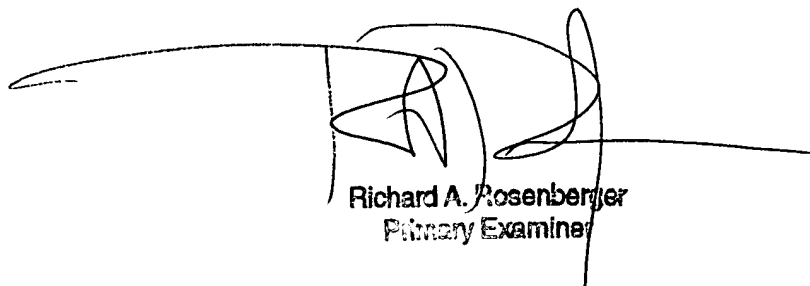
6. Fertig (US 3,740,562) shows a system in which there is a “restricting member” (20) that restricts the angle of the emission light; if, as taught in column 2, lines 50-52 light from the source is reflected back then it must be the case that the member restricts the angle of the emission light. Similarly, if the light reflected from the member (20) is reflected to the photodetector (column 2, line 52-54), then it would appear that it must also be the case that it restricts the angle of light from the object that can reach the receiver (16).

Guillot et al (US 5,793,037) shows a similar arrangement; but does not disclose that the optical system is arranged such that the optic between the light emitter and receiver and the object serve as a “restricting member” of the type claimed.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard A Rosenberger whose telephone number is (571) 272-2428. The examiner can normally be reached on Monday through Friday during the hours of 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

R. A. Rosenberger  
7 March 2006



Richard A. Rosenberger  
Primary Examiner